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EXAMINER

HSIEH, SHIH WEN

ART UNIT PAPER NUMBER

2861

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

58

Office Action Summary	Application No. 10/693,777	Applicant(s) STEINFELD ET AL.	
	Examiner Shih-wen Hsieh	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-27 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 25 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The indicated allowability of claims 19-27 is withdrawn in view of the newly discovered reference(s) to Gompertz (US Pat. No. 6,783,209 B2). Rejections based on the newly cited reference(s) follow.

Claim Objections

2. Claim 23 is objected to because of the following informalities:

Line 7, the word "interrupted" is believed to be the typo of "uninterrupted".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-9 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasunari et al. (JP 2002-059559, from IDS).

In regard to:

Claim 1:

Yasunari et al. teach:

A fluid-ejection assembly comprising:

a first array of fluid-ejection mechanisms (21, figs. 1 and 5) to eject fluid onto media (34, fig. 1);

a first service station (25, figs. 1 and 5) to service the first array of fluid-ejection mechanisms;

a second array of fluid-ejection mechanisms (22, figs. 1 and 5) to eject fluid onto the media (34, fig. 1);

a second service station (26, figs. 1 and 5) to service the second array of fluid-ejection mechanisms;

a first drive mechanism (29) to move the first array of fluid-ejection mechanisms between a first position to eject fluid onto the media and a second position at the first service station while the second array of fluid-ejection mechanisms ejects fluid onto the

Art Unit: 2861

media in place of the first array of fluid-ejection mechanisms, refer to [0048] to [0051]; also please refer to [0049], lines 5-6 for the independently and respectively driving of the arrays.

The device of Yasunari et al. DIFFERS from claim 1 in that it does not teach:

a second drive mechanism to move the second array of fluid-ejection mechanisms between a third position to eject fluid onto the media and a fourth position at the second service station while the first array of fluid-ejection mechanisms ejects fluid onto the media in place of the second array of fluid-ejection mechanisms.

To this end, two array holders (23 and 24, fig. 1) holding arrays (21 and 22) respectively. Each of the arrays engages with the sliding mechanism independently and respectively as [0049], lines 5-6 indicated. This feature equivalents to use two driving mechanisms as proposed by the instant application. However, the end results are the same, i.e., as fig. 5(a) and 5(b) of Yasunari et al.'s invention indicated. Two driving mechanisms as proposed by the instant application, each drives its own array to a servicing station while remains stationary during printing is a well known feature in the ink jet printer art, refer to MPEP 2144.03, In re Malcolm, 129 F.2d 529, 54 USPQ 235 (CCPA 1942).

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device of Yasunari et al. to use two sliding mechanisms (29, corresponding to the drive mechanisms in the instant application) as propose by the instant application, each drives its own array instead of individually engaging with the single sliding mechanism (29) as taught by Yasunari et

Art Unit: 2861

al., since such replacement will perform the same result as those invented by Yasunari et al. in their figs. 5(a) and 5(b).

Claim 2:

Yasunari et al. further teach:

wherein each of the first array of fluid-ejection mechanisms and the second array of fluid-ejection mechanisms remains stationary while ejecting fluid onto the media, such that the media moves past one of the first and the second arrays of fluid-ejection mechanisms, refer to fig. 5. In fig. 5, indicating arrays 21 or 22 remains stationary, while media 34 moves from "J" onto the belt (35) and exits from "K".

Claim 3:

Yasunari et al. further teach:

a belt (35, figs. 1 and 5) on which the media (34) is moved past one of the first and the second arrays (21 or 22) of fluid-ejection mechanisms.

Claim 4:

Yasunari et al. further teach:

wherein while the first array of fluid-ejection mechanisms is to be serviced at the first service station in the second position, the second array of fluid-ejection mechanisms is to eject fluid onto the media in the third position, refer to fig. 5(a) and 5(b) for servicing arrays respectively.

Claim 5:

Yasunari et al. further teach:

wherein while the second array of fluid-ejection mechanisms is to be serviced at the second service in the fourth position, the first array of fluid-ejection mechanisms is to eject fluid onto the media in the first position, refer to fig. 5(a).

Claim 6:

Yasunari et al. further teach:

wherein the first array of fluid-ejection mechanisms and the second array of fluid-ejection mechanisms each comprises an array of inkjet print heads for ejecting ink onto the media, refer to fig. 2 for ink jet head.

Claim 7:

Yasunari et al. further teach:

wherein the first array of fluid-ejection mechanisms and the second array of fluid-ejection mechanisms each eject different spot color inks, refer to [0049] and [0050].

Claim 8:

Yasunari et al. further teach:

wherein the first array of fluid-ejection mechanisms and the second array of fluid-ejection mechanisms each eject differently colored inks in accordance with a color model, refer to [0049] and [0050].

Claim 9:

Yasunari et al. further teach:

wherein the color model is a cyan-magenta-yellow-black (CMYK) color model, refer to fig. 5(c) and fig. 7.

Claim 15:

A fluid-ejection device comprising:

a belt on which media is moved;

a first array of fluid-ejection mechanisms movable by a first drive mechanism between a first position at which the first array ejects fluid onto the media while remaining stationary, and a second position at which the first array is serviced at a first service station; and

a second array of fluid-ejection mechanisms movable by a second drive mechanism between a third position at which the second array ejects fluid onto the media while remaining stationary, and a fourth position at which the second array is serviced at a second service station,

wherein the first array ejects fluid onto the media while the second array is being serviced, and the second array ejects fluid onto the media, in place of the first array, while the first array is being serviced.

Rejection:

This claim is a combination of claims 1 and 2, and is rejected on the basis as set forth for claims 1 and 2 discussed above.

Claim 16:

The device of claim 15, further comprising the first drive mechanism and the second drive mechanism.

Rejection:

This claim is rejected on the basis as set forth for claim 1 discussed above.

Claim 17:

Yasunari et al. further teach:

the first service station and the second service station (25 and 25, figs. 1 and 5).

Claim 18:

Yasunari et al. further teach:

wherein the first array of fluid-ejection mechanisms and the second array of fluid-ejection mechanisms each comprises an array of inkjet print heads for ejecting ink onto the media, refer to fig. 2 for ink jet heads.

5. Claims 19-27 are rejected under 35 U.S.C. 103(a) as being obvious over Gompertz (US Pat. No. 6,783,209 B2).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing

Art Unit: 2861

that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2). Both cases deal with a plurality of print arrays/bars. While one bar is printing the other is in servicing, so the printing is continuous.

In regard to:

Claim 19:

Gompertz teaches in his fig. 3:

A fluid-ejection device comprising:

first means (340) for ejecting fluid onto the media as the media is moved;

second means (345) for ejecting fluid onto the media as the media is moved

while the first means is being serviced so that fluid ejection continues onto the media without stopping movement of the media, refer to col. 9, lines 23-57.

The device of Gompertz DIFFERS from claim 19 in that it does not teach:

a belt on which media is moved.

A belt is just a form of transport device used in ink jet printer used to transport a print media. Although Gompertz does not disclose what type of transport device is used in his invention, because that is not the spirit of his invention, therefore any type of transport device that is used in the ink jet printer could be his transport device.

Therefore it would have been an obvious matter that a transport device in a certain type has to be provided in Gompertz's printer so as to carry print media.

Claim 20:

Art Unit: 2861

The device of claim 19, wherein the first means is for ejecting fluid onto the media as the media is moved while the second means is being serviced so that fluid ejection continues onto the media without stopping movement of the media.

Rejection:

This claim is rejected on the basis as set forth for claim 19 discussed above.

Claim 21:

The device of claim 19, wherein the fluid ejected onto the media is ink such that the fluid-ejection device is an ink jet printing device.

Rejection:

This claim is rejected on the basis as set forth for claim 19 discussed above.

Claim 22:

A method for ejecting comprising:

moving a first array of fluid-ejection mechanisms to a first position for ejecting fluid onto media, the first array movable between a first position and a second position; ejecting fluid onto the media by the first array of fluid-ejection mechanisms from the first position;

moving a second array of fluid-ejection mechanisms to a third position for ejecting fluid onto the media;

stopping ejection of fluid by the first array of fluid-ejection mechanisms and ejecting fluid onto the media by the second array of fluid-ejection mechanisms from the third position such that fluid ejection onto the media continues uninterrupted;

Art Unit: 2861

moving the first array of fluid-ejection mechanisms to the second position for servicing; and,

servicing the first array of fluid-ejection mechanisms at the second position.

Rejection:

This method claim corresponds to the apparatus claim, claim 19. The method steps in this claim are deemed to be made obvious by the functions of the structure in the combination discussed above for claim 19.

Claim 23:

The method of claim 22, further comprising:

moving the first array of fluid-ejection mechanisms back to the first position for ejecting fluid onto the media;

stopping ejecting of fluid by the second array of fluid-ejection mechanisms and ejecting fluid onto the media by the first array of fluid-ejection mechanisms from the first position such that fluid ejection onto the media continues uninterrupted;

moving the second array of fluid-ejection mechanisms to a fourth position for servicing; and

servicing the second array of fluid-ejection mechanisms at the fourth position.

Rejection:

The method steps in this claim are deemed to be made obvious by the functions of the structure in the combination discussed above for claim 19.

Claim 24:

The method of claim 23, wherein servicing the first array of fluid-ejection mechanisms at the second position comprises servicing the first array of fluid-ejection mechanisms at a first service station at the second position.

Rejection:

The method steps in this claim are deemed to be made obvious by the functions of the structure in the combination discussed above for claim 19.

Claim 25:

The method of claim 24, wherein servicing the second array of fluid-ejection mechanisms at the fourth position comprises servicing the second array of fluid-ejection mechanisms at a second service station at the fourth position.

Rejection:

The method steps in this claim are deemed to be made obvious by the functions of the structure in the combination discussed above for claim 19.

Claim 26:

The method of claim 22, wherein moving the first array of fluid-ejection mechanisms to the first position comprises moving the first array of fluid ejection mechanisms to the first position by a first drive mechanism.

Rejection:

The method steps in this claim are deemed to be made obvious by the functions of the structure in the combination discussed above for claim 19.

Claim 27:

The method of claim 26, wherein moving the second array of fluid-ejection mechanisms to the third position comprises moving the second array of fluid-ejection mechanisms to the third position by a second drive mechanism.

Rejection:

The method steps in this claim are deemed to be made obvious by the functions of the structure in the combination discussed above for claim 19.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasunari et al.

In regard to:

Claim 10:

A fluid-ejection assembly comprising:

a first array of fluid-ejection mechanisms to eject fluid onto media;

a first service station to service the first array of fluid-ejection mechanisms;

Art Unit: 2861

a first drive mechanism to move the first array of fluid-ejection mechanisms between a first position to eject fluid onto the media and a second position at the first service station; and

means for ejecting fluid onto the media, in place of the first array, while the first array of fluid-ejection mechanisms is at the first service station in the second position for servicing.

Rejection:

This claim is rejected on the basis as set forth for claim 1 discussed above. In this claim, “means for ejecting fluid onto the media while the first array of fluid-ejection mechanisms is at the first service station in the second position for servicing” is the second array of fluid-ejection mechanisms. Since there is no “second drive mechanism” being recited in this claim, therefore, Yasunari et al.’s invention read on this claim and is a 102 (b) rejection.

Claim 11:

Yasunari et al. further teach:

wherein the means comprises a second array of fluid-ejection mechanisms, and a second drive mechanism for the second array of fluid-ejection mechanisms, refer to the discussion to claim 10 above and also refer to [0049], lines 5-6.

Claim 12:

Yasunari et al. further teach:

wherein the means further comprises a second service station (25 or 26, figs. 1 and 5) for the second array of fluid-ejection mechanisms.

Claim 13:

Yasunari et al. further teach:

a belt (35, figs. 1 and 5) on which media is moved, such that the first array of fluid-ejection mechanisms remains stationary over the belt while ejecting fluid onto the media, also please refer to discussion to claim 2 above.

Claim 14:

Yasunari et al. further teach:

wherein the first array of fluid-ejection mechanisms comprises an array of inkjet print heads for ejecting ink onto the media, refer to fig. 2 for ink jet head.

Response to Arguments

8. Applicant's arguments filed on Nov. 03, 2005 have been fully considered but they are not persuasive.

1. The spirit of the instant application is using two fluid arrays, e.g., A and B, to perform printing, each of the array has its own service station, such that array A performs printing, while array B is in service, or vice verse. This arrangement is like "switching between arrays" such that printing is uninterrupted.

2. Now looking into a paragraph of recitation excerpted from claim 1:

a first drive mechanism to move the first array of fluid-ejection mechanisms

between a first position to eject fluid onto the media and a second position at the first service station while the second array of fluid-ejection mechanisms ejects fluid onto the media in place of the first array of fluid-ejection mechanisms.

Obviously, this paragraph means array A no longer in printing and was located in its service station for service, while array B kicks in (recitation uses the phrase “in place of”, Examiner thought they mean the same, i.e., one replaces the other) for printing. The scenario of this paragraph discloses the printing used only one array (A or B) to print, while the other is not in use. At the time array A goes back to its own service station, then array B replaces array A. Or, vise versa, a switching of arrays.

3. Now turning back to Yasunari et al.’s reference. Fig 5(a) and fig. 5(b) suggest the switching between print heads 22 and 21. To be more specific, fig. 5(a) indicates one head is in printing, while the other is in service, while fig. 5(b) is the other way around.

4. All of the independent claims 1, 10 and 15 disclose one array goes back to service station from a printing position, and then the other array comes in to perform the printing job. Whether there is a delay between this switching between arrays is not particularly disclosed (as that in claim 19, such as the word “continues” in line 5) in these three independent claims. Besides, applicants argue in their Remarks page 9 that: But, as disclosed in Yasunari, “black print head unit 21” does not appear to be able to “breath out” yellow ink, cyan ink or magenta ink and therefore cannot eject fluid onto the media in place of color print head unit 22”. Examiner contends this argument is irrelevant. Because the features disclosed in independent claims 1, 10 and

15 are one array in place of the other, one array in printing, while the other is in service. No color of ink being specified to these two arrays. Therefore, Yasunari et al.'s reference still read on those claims.

9. Base on an up-to-date search, reference US 6,783,209 B2 to Gompertz is found. This reference reads on claims 19-27, i.e., a plurality of ink jet arrays, one is in printing, the other is in service such that printing is uninterrupted. Therefore, the allowability to claims 19-29 is withdrawn.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 7:30AM -5:00PM.

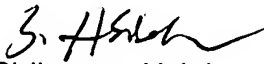
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Application/Control Number: 10/693,777
Art Unit: 2861

SHIH-WEN HSIEH
PRIMARY EXAMINER

Page 18


Shih-wen Hsieh
Primary Examiner
Art Unit 2861

SWH


Jan 3, 2006